Research Proposal

Swami Ramanand Teerth Marathwada University, Nanded.

" Sushruta Medical Contribution in Ancient India – A Historical Study"

Research Proposal for Ph.D. under the faculty of Humanities in the subject of History

Research Student,
Mr. Siddharth Ragho Dawane
I/C Principal
Siddharth College of Arts, Comm & Sci
At. Boradpada. (Badlapur)

Research Guide,
Dr. Narendra B. Deshmukh
Head, Department of History
Late. V.D. Mahavidyalaya
Babhalgaon, Dist. Latur

(Academic Year 2018- 19)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY VISHNUPURI,

NANDED

==========

Researcher Name : - **Mr. Siddharth Ragho Dawane**

Mob No. : - **9890021844 / 9890084804**

Email Id : - **siddharth.dawane@gmail.com**

Category : - **Scheduled Cast**

Guide Name : - **Dr. Narendra B. Deshmukh**

Mob No. : - **9689658110**

Email ID : - **deshnb@gmail.com**

Subject Name : - **History**

Research Topic Name : - **"Sushruta Medical Contribution in Ancient India – A Historical Study"**

Research Proposal

INDEX

Sr. Number	Content
01	Introduction
02	Aims and Objectives of the Study
03	Research Questions or Hypotheses
04	Review of Literature
05	Research Methodology
06	Research Scopes and limitation
07	Chapterisation
08	Bibliography

Research Student,

Mr. Siddharth R. Dawane
I/C Principal
Siddharth College of Arts, Comm & Sci
At. Boradpada. (Badlapur)

Research Guide,

Dr. Narendra B. Deshmukh
Head, Department of History
Late. V.D. Mahavidyalaya
Babhalgaon Dist. Latur

" Sushruta Medical Contribution in Ancient India – A Historical Study"

Introduction

Ancient India was a land of sages, saints and seers as well as a land of scholars and scientists. Ancient India's contribution to science and technology includes Mathematics, Astronomy, Physics, Chemistry and Medical Science & Surgery. Moreover, the first decisive step to positive science in ancient India was in the field of medical sciences. Indian medicine has a long history, and is one of the oldest organized systems of medicine. Its earliest concepts are set out in the sacred writings called the Vedas, especially in the metrical passages of the Atharvaveda, which may possibly date as far back as the 2nd millennium BC.

Ayurveda as a science of medicine owes its origins in ancient India. Ayurveda consists of two Sanskrit words - 'ayur' meaning age or life, and 'veda' which means knowledge. Thus, the literal meaning of Ayurveda is the science of life or longevity. Ayurveda constitutes ideas about ailments and diseases, their symptoms, diagnosis and cure, and relies heavily on herbal medicines, including extracts of several plants of medicinal values. This reliance on herbs differentiates Ayurveda from systems like Allopathy and Homeopathy. Ayurveda has also always disassociated itself with witch doctors and voodoo.

Ayurveda commonly referred as, "knowledge or Science of life" is one of the ancient yet living health systems with wide acceptance especially in South Asia. Ayurveda is considered as a trans-disciplinary knowledge system that accepts but transcends methods of science. The existence of Ayurveda has been recognized since time immemorial. Vivid descriptions about this form of medicine are seen in Rig Veda and Atharva Veda. It is believed that Lord Brahma was the originator of Ayurveda, the Science of Life, which had two different schools. the Atreya School, which deals with Kayachikitsa (General Medicine) and the Dhanwantari School, which deals with Shalya (surgery). Sushruta was regarded as one of the most

intelligent disciples of Dhanwantari, therefore, he preached his scientific knowledge of Shalya to his disciples, particularly addressing to Sushruta. There is difference of opinion among scholars about the age in which Sushruta lived. Some scholars put him quite early in BC while others take him in the Medical Period

The Golden Age of surgery in Ancient India is attributed to the ingenious works of Sushruta, a surgeon belonging to a period between 800 and 600 B.C. Sushruta practiced and taught the art of surgery at the eastern University of Banaras on the banks of the River Ganges. His writings cover six branches of medicine, including ophthalmology. Sushruta and his contemporaries, by virtue of their brilliant medical treatises, were instrumental in effecting the demise of the long practiced magicoreligious medicine of ancient India.

Sushruta Samhita (treatise on surgery by Sushruta) was followed by many other medical treatises and laid a solid foundation for the practice of rational medicine that flourished in ancient India for centuries. Sushruta was probably the first surgeon to raise the status of surgery to the highest level of the healing arts. Bhishagratna, an authority on Sushruta, says "To Sushruta may be attributed the glory of elevating the art of handling a lancet or forceps to the status of a practical science…"

Sushruta is the most celebrated physician and surgeon in India. Many of his contributions to medicine and surgery preceded similar discoveries in the Western world. The teachings and work of Sushruta is compiled in a treatise called Sushruta Samhita (Sushruta's compendium), which is believed to be a part of Atharvaveda. It contains 184 chapters, descriptions of 1,120 illnesses, 300 surgical procedures, classification of human surgery in 8 categories, over 120 surgical instruments and around 700 drugs of animal, plant and mineral origin. Sushruta was one of the earliest exponents of surgery as an art and science. Sushruta's principles and teachings took surgery in ancient India to a noteworthy pedestal, making it the Golden Age of Surgery. He is truly the "Father of Surgery" and "Father of Plastic Surgery". It is extremely essential that today doctors put his principles into practice, and preserve the dignity of medical noble profession. That would be the ideal tribute to this legendary figure.

Aims and Objectives of the Study –

1) To study of Ayurveda History.

2) To Study of Ancient Medical Science.

3) To evaluate Sushruta Life and his Contribution in Ancient Medical science.

4) To compile all the basic concepts of Ancient Medicine in Sushrut Samhita.

5) To evaluate, elaborate, discuss and the various surgical methods and concepts of Sushruta Samhita.

6) To decode the various hidden surgical procedures of the Sushruta Samhita ad co-relate with modern technological steps of surgery.

Research Questions or Hypotheses –

The history of medicine in India spans a period of several thousand years, definitely dating back to a few centuries before the Common Era. There is evidence that the earliest textbooks of Ayurveda like Caraka Saṃhitā (General Medicine), Suśruta Saṃhitā (Surgery), and Kāśyapa Saṃhitā (Paediatrics) were edited and revised several times over a thousand years. For this Research Proposal we used following hypothesis:

1) Ancient Indian medical Science was develop, in ancient time the role of Indian medical science is very important.

2) Ayurveda's role in medical science of ancient India was important.

3) Sushruta plays the important role of all the physician of ancient India.

4) Sushruta Samhita, the composition of Sushruta, gives special information about the medical practice and how to treat various diseases.

5) Sushruta is the most celebrated physician and surgeon in India. Many of his contributions to medicine and surgery preceded similar discoveries in the Western world.

Review of Literature -

- ***Sushruta Samhita (Kaviraj Bhishagharatan)***

The "*Sushruta Samhita"* is an ancient Sanskrit text that covers areas of both surgery and medicine. The most recent English translation was by Kaviraj Bhishagharatan, published in 1910; a later edition was released in 1963. The *Susruta*

Samhita is divided into two parts, the *Purva-tantra* and the *Uttara-tantra*. The *Purva-tantra* is subdivided into five books, the *Sutrasthana, Nidana, Sarirasthana,* Chik*i*tasathanam and the *Kalpastham,* totalling 120 chapters, collectively At the approximate time of the *Susruta Samhita,* the healing arts were divided into five parts, which included the Rogaharas (physicians), Shaylyaharas (surgeons), Vishaharas (poison healers), Krityaharas (demon doctors), and Bhisagatharvans (magic doctors).

The *Sutrasthana* deals with basic medical science and pharmacology; *Nidana,* addresses disease processes; *Chikitsasthanam* is the bulk of the text, 34 chapters on surgical procedures and post-operative management; and the *Kalpasthanam* is composed of eight chapters on toxicology.

Dr.Vasant Lad, Ayurveda: The Science of Self Healing

Vasant Lad is probably the most well known Ayurvedic author in both the East and the West. He has been a practitioner and professor of Ayurvedic medicine for more than 15 years, and for the past four years, has conducted the only full-time programme of study on Ayurveda in the USA. This is a great book to start with if you're new to the concept of Ayurveda. The principles are introduced clearly, and there are lots of examples of different ways to recognise balance and imbalance within the body.You'll find lots of practical advice for bringing yourself into balance, as well as a detailed chart of which different foods and spices may or may not be beneficial for your personal dosha. Tastes, elements, treatments and therapies are discussed in an accessible and easy-to-understand way.

Prakash, Satya, Founder of sciences in ancient India

From this book, we get information about the development of science in ancient India and the various scientific disciplines. One of the oldest civilizations in the world, the Indian civilization has a strong tradition of science and technology. Ancient India was a land of sages and seers as well as a land of scholars and scientists. India was actively contributing to the field of science and technology centuries long before modern laboratories were set up. Many theories and techniques discovered by the ancient Indians have created and strengthened the fundamentals of modern science and technology. While some of these groundbreaking contributions have been acknowledged, some are still unknown to most. The sciences are: 1. Astronomy 2. Mathematics 3. Medical Science 4.

Chemistry 5. Physics. This book give information about the various progress made in ancient India.

Kutumbiah ,P., Ancient Indian Medicine

P. Kutumbiah discusses the Ayurvedas history in his book. According to him, Ayurveda is considered as one of the oldest of the traditional systems of medicine accepted worldwide. Ayurveda, known also as Ayurvedic medicine, is an ancient medical system that has its roots in India, and has been considered by many as one of the oldest healthcare systems in the world. In today's society, Ayurvedic medicine is classified as a traditional, complementary, and/or alternative medicine. This medical system is being practiced in varying forms in a number of Southeast Asian countries, and is becoming increasingly popular in some other parts of the world.

Hoernle AF., Studies in the medicine of ancient India

This book shows how ancient India was the first country to make major medical developments, not only in the use of herbs for medical remedies, but also in surgery, dentistry, operations, plastic surgery, embryology, a detailed understanding of the body, and more. Ancient India also developed Ayurveda, the world's first holistic form of preventative medicine. Herein we review the major ancient texts that outlined the use of the medicine and processes of surgery that were developed.

Dr. M.S. Valyathan, Legacy of Susruta

The Book consists of 87 Chapters and an epilogue arranged in 15 broad topics. There is a substantial introduction of 34 pages. A pleasing future of the book is the list of 42 gnomic quotation from sushruta that capture particular nuggets of ancient medical wisdom and wit. Dr Valiathan has given a superb pen picture of Sushruta as a surgical collosus of all times. Sushruta stressed the importance of dissection of dead bodies to study anatomy as a prerequisite to study surgery. He pioneered surgery which, according to him, was the first and foremost among all branches of medicine and of the highest value among therapies because of its ability to produce instantaneous relief by the use of instruments and appliances. He described 101 blunt instruments, 21 sharp instruments and several accessories such as *kshara sutra* (caustic coated thread) for fistula-in-ano, twine for ligature, 14 types of bandages, dressings, abdominal binders and splints for fractured bones (many of them are beautifully illustrated in 44 figures in the book). Sushruta described 700

plants grouped under 37 classes. He emphasized the effect of soil on the growth of these plants. He laid particular stress on knowledge gained by observation and experiments.

Devendra Mishra, plastic & reconstructive surgery marvels of Sushruta

Sushruta Samhita is regarded as one of the finest books in the history of ancient surgery, where we found description of all kinds of surgical procedures in a very organized way. *Sushruta* a revered surgeon of his time not only described in detail about different kinds of wounds and wound healing methods but also was a master in surgical art craft. Plastic surgery is mentioned in the different chapters in *Sushruta Samhita*, especially in the wound healing and lobuloplasty chapters. It was found that *Sushruta* had complete knowledge of different kinds of skin graft and pedicle graft and had the technique of reattachment of freshly cut off body parts, which is still a matter of astonishment for the science.

Research Methodology –

For this study, a detailed literary study was performed. The all Primary, contents and references were analyses and used for Study. The principal Ayurveda text referred under this study is *Charaka Samhita* and *Sushruta Samhita* Other Ayurveda texts were also studied for the relevant references. Also some archives data or unpublished work of ancient medical history will scan for study purposed. The thesis is based on literature search and analysis of concepts related to Ancient medical History, Documents and Documentation, Information Resources and Bibliometric analysis. For study and analysis of existing literature, planning is documents are collected from different sources, such as R. A. Podar Ayurved Medical College (Mumbai) Library, Ayurved Mahavidyalay (Sion) library, National Institute Of Ayurveda, (Jaipur) Library, Dr. Sarvepalli Radhakrishnan Rajasthan Ayurved University (Jodhpur), Library, All India Institute of Ayurveda, (Delhi) Library Regional Ayurveda Institute For Fundamental Research, Pune etc. While conducting the study different types of micro and macro documents are consulted. International techniques will be used for the data collection in this research work.

Research Scopes and limitation -

This research project is very important because this writing will reveal the history of the glorious medical science tradition of ancient India. In ancient India, our medical science was very advanced; different medicines were used for various diseases, and there were many different types of healing methods used for various diseases. There will be some limitation in this study, in which the language of Sanskrit, the upbringing of the tools, Linking medical science to history.

Chapterisation –

This is tentatively chapterisation. During the study based on the data collection chapter name and number will be increase or decrease. The entire research work will run into six chapters. Chapter name is following:

Chapter 1 – Introduction

The first one on Introduction brings out the importance of the study, and states its objectives and hypotheses.

Chapter 2 - History of Ayurveda (Ancient medicine)

In ancient India Medical Science supposedly made many advances. Specifically these advances were in the areas of plastic surgery, extraction of cataracts, and dental surgery. Ancient scholars of India like Atreya, and Agnivesa have dealt with principles of Ayurveda as long back as 800 BC. Their works and other developments were consolidated by Charaka who compiled a compendium of Ayurvedic principles and practices in his treatise.

Ayurveda is considered by many scholars to be the oldest healing Science in Sanskrit. Ayurveda means " The Science Life of " Ayurvedic knowledge oriented in india more than 5, 000 years ago and is often called the " Mother of healing ." It stem from the ancient vedic culture and was taught for many thousands of years in an oral tradition from accomplished masters to their disciples.

Ayurveda is generally understood as 'Science of life' translating 'Ayuh (r)'as life and 'Veda' as science. However the word 'science' in its conventional meaning is not an appropriate equivalent for 'Veda'. According to Caraka samhita (an ancient treatise on Ayurveda), Ayurveda is the science that defines Ayuh i.e. life ; describes measurements of life and its components ; explains about lives advantageous or

disadvantageous for other lives and life in general ; that defines happy and unhappy life and suggests what is good and what is bad for life

Chapter 3 – Sushruta and Ancient Indian Medicine history.

This Chapter we describe the whole life of Sushruta, his achievements in medical science. There are different arguments while deciding the time of Sushruta. There are literary references that the descendants of Suhsruta were earlier than Panini, the great grammarian. Lietard and Max Neuburger were of the opinion that Sushrutra must have lived as late as the 1st century A.D. to 10th century A.D. Sushruta wrote the *Sushruta Samhita* as an instruction manual for physicians to treat their patients holistically. The Sushruta Samhita is an ancient Sanskrit text on medicine and surgery, and one of the most important such treatises on this subject to survive from the ancient world. The Compendium of Suśruta is one of the foundational texts of Ayurveda (Indian traditional medicine), alongside the Caraka-Saṃhitā, the Bheḷa-Saṃhitā, and the medical portions of the Bower Manuscript. It is one of the two foundational Hindu texts on medical profession that have survived from ancient India. The Suśruta saṃhitā is of great historical importance because it includes historically unique chapters describing surgical training, instruments and procedure.

Chapter 4 – Sushruta and Ancient Indian Surgery history.

The ancient surgical science was known as Shalya Tantra. Shalya means broken arrow or a sharp part of a weapon and Tantra means maneuver. Sushruta is the most celebrated physician and surgeon in India. Though he practiced during the 5th century B.C., many of his contributions to medicine and surgery preceded similar discoveries in the Western world.

The practice of surgery has been recorded in India around 800 B.C. This need not come as a surprise because surgery (Shastrakarma) is one of the eight branches of Ayurveda the ancient Indian system of medicine. The oldest treatise dealing with surgery is the Shushruta Samahita (Shushruta's compendium). Shusruta who lived in Kasi (Varanasi) was one of the many Indian medical practitioners who included Atraya and Charaka. He was one of the first to study the human anatomy. In the Shusruta, Samahita he has described in detail the study of anatomy with the aid of a dead body. Shusruta's forte was rhinoplasty (Plastic surgery) and ophthalmialogy (ejection of cataracts). Shushruta has described surgery under eight heads Chedya

(excision), Lekhya (scarification),Vedhya (puncturing), Esya (exploration), Ahrya (extraction), Vsraya (evacuation) and Sivya (Suturing).

Susrutha performed surgeries on nose, ears, bladder, cataract, fistula, joints, hemorrhage more than 2600 ago with surgical instruments, but first known surgery performed on human body was mentioned in Rig-Veda (composed around 23720 BC), where a Prosthetic leg was attached to a queen's leg, so that she could walk normal and even participate in war. Later, plastic surgery was performed in India around 6th century BCE by Susrutha and then popularized in the Arab world that actually launched it to Europe. Susrutha performed first rhinoplasty (nose-job) with a unique understanding of the circulation system.

Chapter 5 - Medical science of ancient India and today's world.

Indian Science may not be at the top of world today. But most of us don't know that ancient Indian scientists were the pioneers of many scientific and medical practices of modern times. Be it in mathematics, astronomy, agriculture or surgery, Indian scientists were the torch bearers to the entire world.

There were several physicians practicing classical medicine in Vedic period like Dhanvantari, Bharadwaja and Atreya. However, the great progress in Ayurvedic medicine (based on natural herbs) was made during the periods of Charaka and Sushruta. Charaka Samhita describes: human embryology, anatomy, physiology, various diseases and their treatment. Sushruta Samhita describes surgery, many difficult and intricate surgical operations such as removal of stone from urinary bladder and delivering the foetus through an operation in the abdomen (which later came to be known as Caesarean section).

Surgery today is considered the sole preserve of modern medicine. Not many of us know that the first successful surgical procedures were practiced by ancient Indian doctors more than 2500 years ago. Sushruta who lived in the 6th century B.C. was the pioneer in evolving surgical procedure for patients suffering from hyposomatic ailments. His surgical methods are most relevant even in the present scenario. Sushruta also describes surgical steps during non delivery of full term pregnant women. This is almost similar to that of what is conducted now-a-days as Cesarean section. There are also elaborate details about human anatomy, embryology, obstetrics and gynaecology. Many principle techniques of plastic surgery were in practice during the time of Sushruta. This has been described by Sushruta in his text.

Chapter 6 - Conclusion

Sushruta was one of the great scientists in India and pioneer in surgery field. He will be an evidence which shows the potential of our Indian medicine and it's success. He will surely remain as the source of inspiration. However it indicates that Indian surgeons were highly trained and proficient in performing the major and complicated surgeries. In brief, these contributions by Sushruta have inspired the scientists of the 20th century to realize the significance of transplantation as well as plastic surgery practices in the 6th century BC or even before. Findings, Conclusions and Suggestions for further Research will be presented in this Chapter.

Bibliography –

1) Kunjalal ,Bhishakratna Kaviraj., (1907) *' Susruta: An English translation of the susruta samhita, based on the original Sanskrit text, vol-1 '*, Wilkins Press, Culcutta.

2) Bhishagratna KK. (1963*) 'The Sushruta Samhita. (English translation based on the original Sanskrit text).'* Chowkhamba Sanskrit Series Office. Varanasi.

3) Hoernle AF. (1907), 'Studies *in the medicine of ancient India.'* Clarendon Press: Oxford; London

4) Banerjee .Gauranga Nath, (2007), *'Hellenism in Ancient India'*, Butterworth and coporation Ltd., Culcutta.

5) Verma ,S.P.,(2005), *' Ancient system of Oriental Medicine'*, Anmol Publications Pvt.Ltd, New Delhi.

6) Sanyal, PK. (1964), *'A Story of Medicine and Pharmacy in India'* , Navana Printing works Private Limited, Calcutta.

7) Mukhopadhyaya G. (1913), *'The surgical instruments of the Hindus, with a comparative Study of the surgical instruments of Greek'*, Roman, Arab and The modern European surgeons. Calcutta University Press: Calcutta.

8) Kutumbiah, P., (1994), *'Ancient Indian Medicine'*, Orient Longman Private Limited, Hyderabad.

9) Magner Lois N (1992), *'A history of Medicine'*, Marcel Dekker Publications, New York.

10) Chattopadhyaya DP. (1933) *'Science and Society in Ancient India'*. Research India Publications; Calcutta.

11) Bhagvat Sing Jee HH. (1978) *'A Short History of Aryan Medical Science'*, New Asian Publishers; . Delhi.

12) Prakash, Satya, (1965) *' Founder of sciences in ancient India'* , Research Institute of Ancient Scientific studies , New Delhi.

13) Krishnamurthy,K.H. (1991), *' The Wealth of Susruta'*, International Institute of Ayurveda, Coimbatore.

14) Winternitz M, Jha S. (1965), *'History of Indian Literature. 2nd edn. Vol. 2'*, Motilal Banarsidass, New Delhi.

15) Valyathan, M.S. Dr, (2007), *'Legacy of Susruta'*, Orient Longman Pvt Limited, Chennai.

16) Banerjee, D.D., (2003), *'History of medicine'* B.Jain Publishers, Pahargunji , New Delhi.

17) Sadasivatirtha, Swami, (2007), *'The Ayurveda Encyclopeadia, Natural secrets to Healing, Prevention and Longevity'*, Ayurveda Holistic Press, Bayville, USA.

18) Wujastyk, Domonik, (2003*), 'The Roots of Ayurveda, Selections from Sanskrit Medical Writings',* Penquin Books, England.

19) Frank McDowell, (1977), *'The Source Book of Plastic Surgery.'* Williams and Wilkins Company: Baltimore.

20) Ackernecht EH. (1982), *'A short history of medicine'*. Johns Hopkins University Press: England.

21) Wise TA. (1845), *'Commentary on the Hindu system of medicine'*. Thacker Publication; Calcutta.

22) Rana RE, Arora BS. (2002), *'History of plastic surgery in India'*. Journal of postgraduate Medicine, India.

23) Zimmerman, Leo M, llza Veith,(1993) , *'Great ideas in the history of surgery',* Norman publications, Sanfrancisco.

24) Ralph Hermon Major, (1954), *' A History of Medicine'* , vol- I, Thomas Publications, Springfield.

25) Ruthkow IM.(1961), *' Great Ideas in the History of Surgery'* ; The Williams & Wilkins Company; Baltimore.

26) Porter R. The Greatest Benefit to Mankind. (1998), *'A Medical History of Humanity'.* 1st edn: W.W. Norton & Company; . New York

27) Persaud TVN. (1997), '*A History of Anatomy- The Post-Vesalian Era. 1st edn'.* Springfield.

28) Nagaratnam AMA. (1989*), 'New Light on Ancient Indian Anatomy. Vol. 19'*. B. Rao for the Central Council for Research; Hyderabad, India.

29) Keswani NH. 'Medical *education in India since ancient times. In: O'Malley CD, editor. The History of Medical Education'.* University of California Press. Berkeley.

30) Hoernle AF. (1907*), 'Studies in the Medicine of Ancient India'*. Claredon Press; Oxford.

Research Student,

Mr. Siddharth R. Dawane.
I/C Principal,
Siddharth College of Arts, Comm & Sci,
At. Boradpada. (Badlapur)

Research Guide,

Dr. Narendra B. Deshmukh.
Head, Department of History,
Late. V.D. Mahavidyalaya,
Babhalgaon Dist. Latur s